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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,270	03/31/2004	Meng-An Pan	58268.00348	5391

32294 7590 07/05/2006

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TYSONS CORNER, VA 22182

EXAMINER
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LE, NHAN T

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,270

Applicant(s)

PAN, MENG-AN

Examiner

Nhan T. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/12/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 5-8, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 7,050,778) in view of Feng (US 2004/002311).

As to claims 1, 7, 8, Olson teaches a method, comprising: filtering a signal with a band-pass filter (see fig. 13, number 1304, col. 10, lines 7-24); measuring image rejection of the filtered signal (see fig. 13, number 1310, col. 10, lines 7-24); and adjusting a center frequency of the band-pass filter (see fig. 14, step 1408, col. 10, lines 51-67, col. 11, lines 1-16). Olson fails to teach measuring the DC offset. Feng teaches measuring the DC offset in a direct conversion receiver (see paragraphs 0057-0058). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Feng into the system of Olson in order to process the received signals more accurately represent the desired signal (as suggested by Feng paragraph 0058).

As to claims 5, 6, 12, 13, the combination of Olson and Feng teaches wherein the filtering, measuring and adjusting is repeated until a compromise between DC offset rejection and image rejection is achieved (see Olson col. 11, lines 12-52, Feng paragraphs 0057-0058) and wherein the compromise is reached when the DC offset

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rejection is within acceptable tolerances and image rejection meets minimum pre-specified requirements (see Olson col. 11, lines 12-52, Feng paragraphs 0057-0058).

2. Claims 2-4, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 7,050,778) in view of Feng (US 2004/002311) further in view of Vinn et al (US 6,441,682).

As to claims 2-4, 9-11, the combination of Olson and Feng fails to teach wherein the bandpass filter comprises two cross-coupled low pass filters; wherein the cross-coupling includes cross-coupled variable resistors and wherein the adjusting is done by varying the resistance of the cross-coupled variable resistors. Vinn teaches wherein the bandpass filter comprises two cross-coupled filters (see col. 5, lines 55-61); wherein the cross-coupling includes cross-coupled resistor and wherein the adjusting is done by varying the resistance of the cross-coupled resistor (see col. 7, lines 4-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Vinn into the system of Olson and Feng in order to adjust the center frequency.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mohindra (US 2003/0165203) teaches quadrature gain and phase imbalance correction in a receiver.

Katisko (US 5,933,448) teaches automatic tuning of radio transceiver.

Hughes et al (US 6,055,282) teaches digitally sampled phase quantized FM detector for a communication receiver.

Payne (US 5,140,703) teaches modulation distortion analyzer.

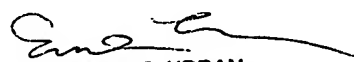
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300:

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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